



Safe stacking of sawn timber and board materials

August 2021



CONTENTS

1.0	Introduction	2
	What this guide is about	2
<hr/>		
2.0	Managing risks	3
	Your duties to manage work risks under HSWA	3
	Identifying, assessing and managing work risks	3
	Causes of timber stacks collapsing and stored boards tipping	4
<hr/>		
3.0	Safe site management	5
	Site design	5
	Stack location	6
	Training and support of workers	6
	Regular inspections	7
<hr/>		
4.0	Safe stacking practices	8
	Parts of a stack	8
	Safe stack assembly	11
	Limit stack height	11
<hr/>		
5.0	Safe unstacking practices	13
<hr/>		
6.0	Safe storage of board materials	14
	Safe loading and unloading of board materials	15

appendices

Appendix 1: Health and Safety at Work Act 2015 duties	16
Appendix 2: So far as is reasonably practicable	18
Appendix 3: Working with other PCBUs – overlapping duties	19
Appendix 4: Worker engagement, participation and representation (Part 3 of HSWA)	20
Appendix 5: Managing risk (section 30 of HSWA)	22

tables

1 Safe site design considerations	5
2 Safe stack location considerations	6
3 Safe stacking practices	9

figures

1 Parts of a stack	8
2 Stack height limit ratio	12
3 Pigeon hole system for storing board materials	14

KEY TERMS USED IN THESE GUIDELINES

In these guidelines the following terms will be used with the following meanings:

- **competent person** will be used to refer to someone who has the relevant knowledge, experience and can demonstrate the skills to carry out a particular task using appropriate techniques and procedures.

1.0

Introduction

What this guide is about

This guidance contains practical advice for persons conducting a business or undertaking (PCBU). It is for PCBUs such as timber manufacturers, mills or yards, and other PCBUs who stack sawn timber or board materials.

Under the Health and Safety at Work Act 2015 (HSWA), you must ensure that the health and safety of workers and other people is not put at risk from your work.¹

This guidance provides advice on how the health and safety risks arising from sawn timber stacks and stored board materials can be minimised through the use of:

- good site management
- safe stacking and unstacking practices, and
- safe storage options for board materials.

¹ For more information about HSWA and PCBU duties, see Appendix 1.

2.0

Managing risks

Your duties to manage work risks under HSWA

Risks to health and safety arise from people being exposed to a hazard (a source or cause of harm). A PCBU must first try to **eliminate** a risk if this is reasonably practicable². If it is not reasonably practicable to eliminate the risk, it must be **minimised** so far as is reasonably practicable.

Identifying, assessing and managing work risks

We recommend you follow these steps to identify, assess and manage work health and safety risks.

STEP 1 Identify hazards that could give rise to work risks

With your workers, identify what could harm the health or endanger the safety of one or more workers or others (such as visitors, or bystanders).

STEP 2 Assess work risks

With your workers, identify and assess the risks arising from each work hazard.

STEP 3 Decide how to manage each risk

With your workers, decide how to manage work risks. Multiple control measures may be needed to deal with a given risk. Give preference to control measures that protect many workers at the same time (for example, safety barriers).

STEP 4 Put control measures in place

As soon as possible after a decision is made about the control measures, a PCBU should:

- put the control measures in place
- instruct and train workers (including new workers) about the control measures, including why it is important to use them and how to apply them.

STEP 5 Review and improve control measures

Control measures should remain effective, be fit-for-purpose, be suitable for the nature and duration of the work, and be carried out by workers correctly.

With your workers, regularly monitor and review control measures to confirm that the measures are effective.

See Appendix 5 for more information on managing risk.

You must involve your workers when identifying and assessing work risks and making decisions on how to eliminate or minimise work risk. For more information, see Appendix 4: *Worker engagement, participation and representation*.

Harm to workers and others can occur when timber stacks collapse or stored boards tip. The possible causes of these are described next.

² See Appendix 2 for more information on 'so far as is reasonably practicable'.

Causes of timber stacks collapsing and stored boards tipping

Common causes of sawn timber stacks collapsing

Incidents with stacked sawn timber usually happen when timber stores collapse and heavy timber falls and crushes workers or other people. These incidents can be fatal.

Stack collapses are commonly caused by:

BEARER FAILURE

- Use of damaged, poor condition or insufficient bearers to support the stack.
- Poorly positioned, incorrect length or non-uniform bearers being used.

POORLY ASSEMBLED, UNSTABLE STACKS

- Excessive stack heights being assembled.
- Misplacement or missing fillets.
- Use of poor quality packs (for example, packs were not good quality to begin, have shifted out of shape over time, or were not strapped together appropriately).

STRAP FAILURE

- Incorrect strapping used to support load.
- Incorrect positioning of strapping.

UNSAFE WORK PRACTICES OR POOR SITE DESIGN

- Vehicles knock the stack because there is not enough space to work around the stack.
- Workers climb the stack to access packs or other items stored incorrectly.
- Stacks are not monitored regularly for change and restacked if needed.
- Poor unstacking practices being used.

ENVIRONMENTAL FACTORS

- Unsuitable ground conditions where stack is assembled (for example, the ground is sloped, uneven, or with poor load bearing capacity).
- Environmental factors changing the ground where the stack is assembled (for example, rain softening or washing away the ground below the stack).
- Wind moving or blowing packs off the stack.

Common causes of stored board materials tipping

Wooden sheets are often heavy and can be difficult to move. When multiple sheets are stored together, for example, leaning against a wall, the risk of several sheets tipping out of control and crushing workers or other people increases.

Incidents with board materials are commonly caused by:

POOR STORAGE PRACTICES

For example, boards stored leaning against a wall slipping out of control and injuring workers.

UNSUITABLE STORAGE SYSTEMS BEING USED

For example, systems collapsing because they were not appropriate for the load that they were supporting.

Sections 3-6 provide good practice advice on safe site management, safe stacking practices, safe unstacking practices and safe storage of board materials.

3.0

Safe site management

This section provides guidance on planning and managing your timber storage, so that risks to workers and visitors are minimised.

It describes how to have a safe site design and well located stacks, and what to check for in regular stack inspections.

Site design

It is important to think about where your timber storage area will be located, and who will be visiting or working around it.

When designing a safe work site, consider the following questions:

How can you restrict public access?	Where there is a risk of public access to the timber store area, consider providing appropriate fencing to keep out children and other unauthorised people. Signs and marked walkways can be used to direct visitors to a reception area away from where timber is stored.
How can you clearly define roads and aisles, and keep pedestrians and vehicles apart?	Roads and aisles around a site should be clearly defined and well maintained. To help avoid congestion, separate vehicle entry and exit routes can be established. This will minimise the risk of vehicle collision and support worker awareness of vehicle movements. It may be necessary to create exclusion zones (for example, forklift only areas) or pedestrian-only areas. If appropriate, use barriers or guardrails to stop pedestrians from entering vehicle areas.
Where are other workers or activities located?	Consider where other activities are likely to be in and around the site. Where practicable, design your timber storage site so that risks to other workers or visitors are minimised. For example, timber stacks should be at right-angles to walkways so that if the stack fell, it would fall away from where workers or visitors could be. If it is appropriate for your work site, consider using worker proximity alert devices. - For example, if a worker was between stacks of timber and a forklift approached, both parties would get an audible and visual alert to the other person's presence. - Provide workers training in their use.
How can you provide clear signage?	Signs on the site directing vehicles and pedestrians should be simple, well positioned, well lit, and easy to read and understand.

TABLE 1: Safe site design considerations

For more information on managing your site, see WorkSafe's guidelines: [Managing work site traffic](#)

Stack location

To minimise the risk of stack collapse, the area where a stack is located should be assessed for suitability. Consider the following:




 <p>Environmental conditions</p>	Ground stability	Ground below and around the stack needs to be sound and strong enough to hold the load of the stack as well as any machinery that might be used.
	Slope	Ground should be flat, or if the foundation has been sloped to encourage water to drain, any slope should not exceed 2°
	Drainage	The site should have adequate drainage so that heavy rain will not affect the ground stability. Pooling of water can also deteriorate the bearers.
	Prevailing wind	Stacks that are outside may be affected by wind. Even relatively light wind can dislodge timber. Where possible construct them so a small cross section is facing the prevailing wind direction. If appropriate in high wind areas, upper layers of the stack can be restrained to prevent movement.
 <p>Site characteristics</p>	Surface construction below stack	The surface that the stack is on should be solid and well maintained with no potholes or cracking. The foundation and soil below the stack should be fit-for-purpose for the load of the stack it will need to support.
	Access to stack	The stack needs to be accessible for whatever method will be used to assemble or unstack the stack. For example, if forklifts or side-loaders will be used on or around the stack, leave enough room around the stack to work safely. Set stacks out so that workers can safely access and scan identification codes.
	Visibility	Consider what visibility pedestrians and vehicles will have once the stack has been assembled. Stack areas should have adequate lighting.
 <p>Location of other features</p>	Suitability of buildings	If buildings are to be used for timber storage, a competent person should assess their suitability. For example, the walls of storage sheds may require reinforcing.
	Location of power lines	Stacks should be located so that machines that work with them are further than the distances required by regulations from any live power line. For more information, see our guidance on the Electrical Codes of Practice
	Location of underground services	Consider where underground services, manholes, fire hydrants or other site utilities are located. They may need to be accessed after the stack is built.
	Location of site boundary	When timber is stacked beside a boundary where there is public access, assemble the stack end-on and at least 1 metre from the boundary.

TABLE 2: Safe stack location considerations

Training and support of workers

It is important to train workers on how to safely stack and unstack sawn timber and boards. Training should be specific to the work area and role and include:

- what the risks are
- ways for workers to report or raise issues
- refresher training and on site job observation if appropriate.

Regular inspections

Timber storage sites and stack condition should be inspected regularly as part of general housekeeping or after an event such as an earthquake or storm.

Checks should look for change and any new or potential risks. For example, regular inspections should:

- look for change in the site surface. For example, potholes or damage from the environment or vehicles that need to be filled and repaired
- check that safe stacking practices are being used
- assess any change in stack shape or if the stack has started to lean. Restack if necessary
- check for any pack that has begun to shift out of square. It could affect the stability of the whole stack. Assess and repack if necessary
- check bearers for damage, and replace if necessary
- assess strapping for wear and correct tensioning. Worn or loose straps should be replaced or re-tensioned to maintain the pack shape. Check that the strap being used is still suitable if the load on the stack has changed.

Stored timber boards or large flat items should be checked regularly to ensure the storage systems are not overloaded or are damaged, and that safe storage practices are being followed.

Put systems in place so that if workers see damage or instability in a timber store, it can be reported to you or a supervisor as soon as possible.

4.0

Safe stacking practices

This section describes the parts of a stack, how to safely assemble a stack, and stack height limits.

Parts of a stack

A timber stack has many parts. The following table provides a description of each part, and how to use it effectively to form a stable stack.

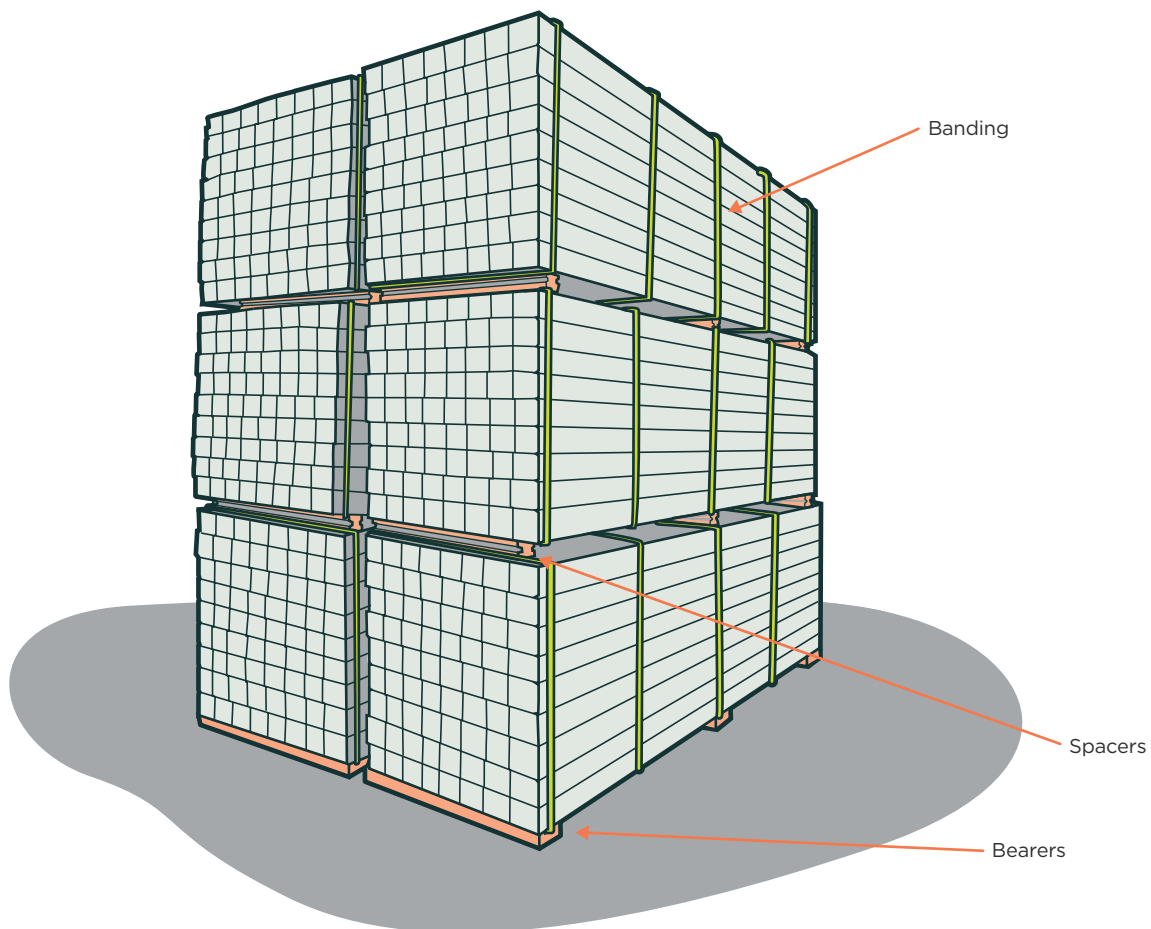


FIGURE 1: Parts of a stack

PART	HOW TO USE EFFECTIVELY
<p>Foundation</p> <p>The foundation is the surface and layers below the stack. They help the load of the stack to be spread out to a level that the ground can support. A solid foundation is necessary to construct a stable stack.</p>	<p>Concrete or asphalt foundations are preferred as they help to protect the layers of soil beneath from moisture damage.</p> <p>Foundations should be fit-for-purpose and will depend on the soil type and the load that they need to support.</p> <p>A competent person should assess the suitability of the foundation, and if appropriate, design what will be needed.</p>
<p>Bearer/ground bearer</p> <p>Bearers are large lengths of timber used to raise the lowest packs off the ground and provide space for forklifts or other plant to lift the pack. They support the weight of the stack and are an important part of keeping the stack stable.</p> <p>It is important to make sure there is a stock of good quality bearers available and that damaged bearers are not being used.</p>	<p>Bearers/Ground Bearers should:</p> <ul style="list-style-type: none"> - be as straight as possible, and the same length as the width of the stack - be in good condition, and inspected regularly for damage and replaced if needed - be made of material suitable for the stack location - be square, or if they are rectangular in cross section, laid flat (on their widest side) - be placed as evenly as possible, with enough used to support the packs and prevent them from sagging - be appropriate strength and size for the weight of the timber they need to support - be the same width as the pack. <p>Do not use any bearers that protrude from the stack, or are shorter than the pack width.</p> <ul style="list-style-type: none"> - Short bearers make the stack unstable. - Protruding bearers encourage people climb on the stack which should be avoided. - Protruding bearers are a danger to people or vehicles working around the stack. <p>Do not leave loose, unstrapped bearers on top of packs.</p>
<p>Pack</p> <p>Packs of timber are the building blocks of the stack. The quality of the packs being used plays a large part in the overall stability of the assembled stack.</p>	<p>Packs should:</p> <ul style="list-style-type: none"> - be made up of pieces of timber of uniform length and width - be made up of timber lying flat on its widest side - be packed as tightly as possible to remove air spaces between pieces of timber - be square or rectangular in cross section. Any packs that are out of square affect the stability of the stack and can cause tension in the strapping around the pack - have flat, level tops (use binder fillets between layers of packs to keep the stack level) - be good quality. Any packs that are out of square, or are partially collapsed should be repacked before use. <p>If packs must include varying lengths/widths of timber, spacers can be used to make them more uniform and more stable.</p> <p>Do not leave any timber ends protruding from the pack, as this encourages people to use them to climb the stack which should be avoided.</p>
<p>Strapping</p> <p>Strapping (sometimes called banding) around the outside of a pack holds the timber lengths together firmly and helps to form a stable building block.</p>	<p>Strapping should:</p> <ul style="list-style-type: none"> - be appropriate for the dimensions and weight of the pack. For example, polypropylene strapping is suitable for lighter and smaller packs, whereas polyester or steel should be used on heavier or larger packs - applied squarely (parallel to the end face of the timber) - be tight to the face of the pack - not be applied over the ends of protruding fillets or bearers - be checked regularly to ensure it is in good condition and has not become loose or too tight. For example, timber with high moisture content might shrink when it dries and the strapping will come loose and need to be reapplied.

PART	HOW TO USE EFFECTIVELY
<p>Binder fillets and spacers</p> <p>Binder fillets are extra pieces of wood that can be used between the layers of packs to help form a tight pack.</p> <p>Spacers are extra pieces of wood placed between complete packets to provide further stability and guide forklift drivers when stacking or unstacking, or when loading or unloading.</p> <p>Binders and spacers use friction to help tie the packs together and can be used to even out any irregularities or unevenness such as sagging ends in the packs.</p>	<p>Binder fillets and spacers should:</p> <ul style="list-style-type: none"> - be long enough for the width of the stack. If shorter fillets are used, place so that they overlap each other and are not end to end - not protrude from the stack.
<p>Stack restraint</p> <p>Additional restraints can be added to a stack to help prevent the stack from moving or collapsing.</p> <p>It is recommended that the stack is restrained if any extra load, other than the load from the weight of the stack, might affect it.</p> <p>Examples of additional loads include:</p> <ul style="list-style-type: none"> - load caused by movement from an earthquake - load when the stack moves. For example, when it is being loaded or unloading by a forklift or is being moved on a vehicle - load on the stack from strong wind. 	<p>Stacks that are located side-on and close to the boundary of the site should be restrained to the full height of the stack.</p> <p>A competent person should:</p> <ul style="list-style-type: none"> - assess the stack location and conditions to work out whether the stack should be restrained - assess the type of restraining device that is appropriate for the load that it will support - regularly check restraints to make sure they are suitable (for example, a different restraining device may be required if the stack is to be shifted), as well as to check for any damage - keep a record of these checks.

TABLE 3: Safe stacking practices

For transporting timber on any public road, restraint methods should follow the [Waka Kotahi NZ Transport Agency Truck Loading Code](#)

Strapping and stack restraints that may be suitable for moving a stack around a site may not meet this code and should be assessed by a competent person.

Safe stack assembly

Follow these tips for safe stack assembly.

- Place smaller or lighter packs on top of larger heavier packs.
- The centre of gravity for each pack should be stacked directly above one another.
- Packs should not protrude from the stack. This encourages people to use them to climb the stack and should be avoided.
- If identification tags are required, position them so that they can be safely accessed. It is preferable to place them across the width (shortest side) of the stack, so that the risk to workers is minimised.
- Packs should not bridge across two stacks or across other packs.
- Do not place loose materials or timber on top of stacks.
- The stack should stand alone. Stacks should not lean against or be supported by each other.
- If appropriate, apply restraining devices to the height of the stack. For more information, see the section on stack restraints in Table 3: Safe stacking practices.

Limit stack height

Even when space in your site is limited, the height of stacks should be carefully considered to minimise risk to workers and other people on site.

It is important to note that the following stack height ratios are a guide.

Before assembling a stack, a risk assessment should be completed that takes into account:

- the location of the stack and the characteristics of the area
- any environmental risks
- what other activities happen in the area around the stack.

The maximum height of any stack should not be more than four times the shortest width of the pack (ratio 4:1).

Maximum stack height = ratio 4:1

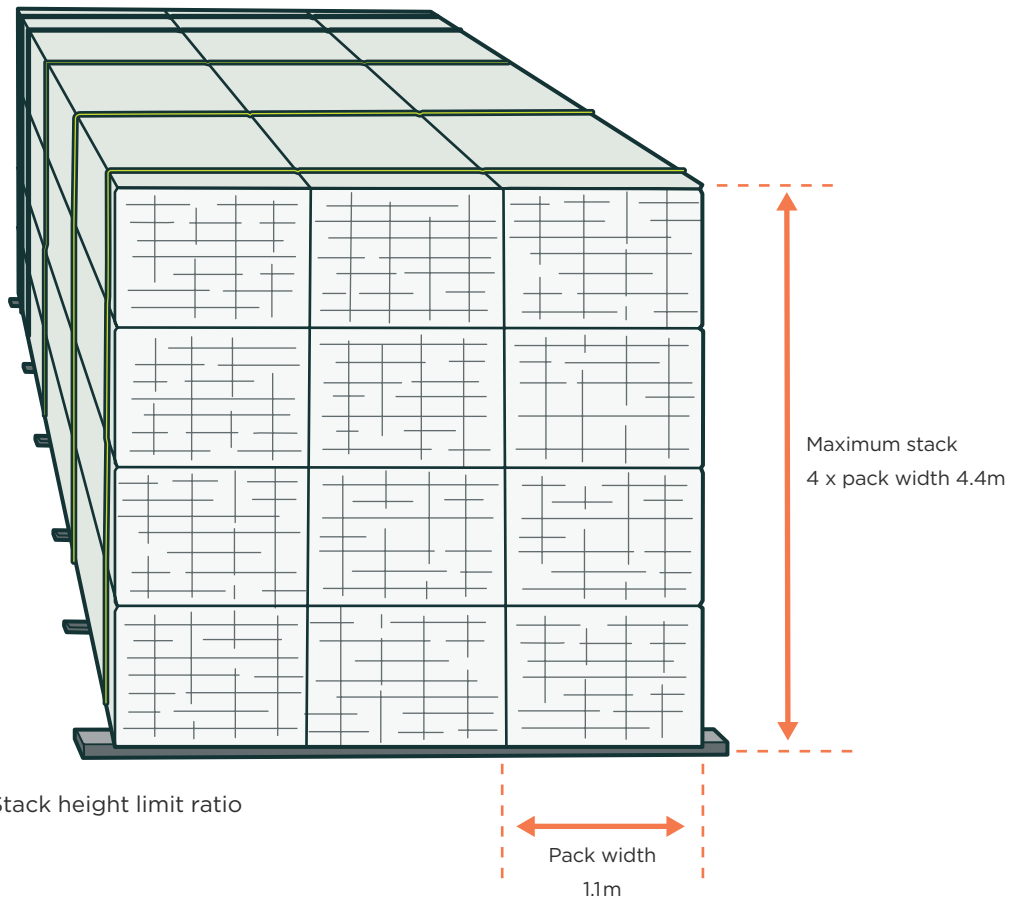


FIGURE 2: Stack height limit ratio

For example, if the shortest pack width is 1.1 metres, then the maximum height of the stack should not exceed 4.4 metres.

If the stack is outdoors, the height should be adjusted to suit the environment and weather conditions.

Where there is a risk of vehicles knocking the stack, or if the stack may be prone to movement in an earthquake, is on a slope, or there is frequent public access, the stack height should be reduced to a maximum ratio of 2:1.

Stacks at risk = ratio 2:1

Strapping or linking packs together

You may be able to increase the stack height if you strap smaller packs together, or use bearers to link packs. Strapping or linking packs together increases the base measurement, which increases the possible stack height.

5.0

Safe unstacking practices

This section describes how to safely unstack timber including having a plan and making sure the stack remains stable during unstacking.

Inspect the stack. Have a plan on how you will unstack before you begin

- Before unstacking, inspect the stack for any signs of instability.
- Check for broken strapping, damaged bearers or fillets.
- Consider the order that packs should be removed and whether a forklift or other appropriate equipment should be used. Check whether any packs have balled, or appear to be supporting or bridging other packs.

Access the top of the stack safely

- If access to the top of the stack is required, then it should be done safely. Use appropriate equipment to access the top of the stack. For example, a mobile elevating work platform or forklift cage.
- If these are not available, and the stack has been checked for stability, a secured ladder can be used.
- For more information, see our guidance: [Working at height](#)

Maintain pack stability while unstacking

- If appropriate, take down packs layer by layer. Check for any signs of movement as you unstack.
- Do not remove individual pieces of timber from packs until they are on the ground and the working area is safe.
- Drivers should lower packets to the ground before attempting to remove any loose timber or bearers.

6.0

Safe storage of board materials

This section provides advice on how to safely store board materials, and describes two storage options:

Flat storage

Wooden boards and other similar flat articles can be stored horizontally on a level surface. This includes for example, doors or windows. Suitable pallets or wood/chipboard battens should be used to support them.

Pigeon hole storage

An alternative to storing boards flat is the 'pigeon hole' or 'toast rack system'. In this system boards are stored in compartments to prevent sideways movement and allow individual sheets to be accessed.

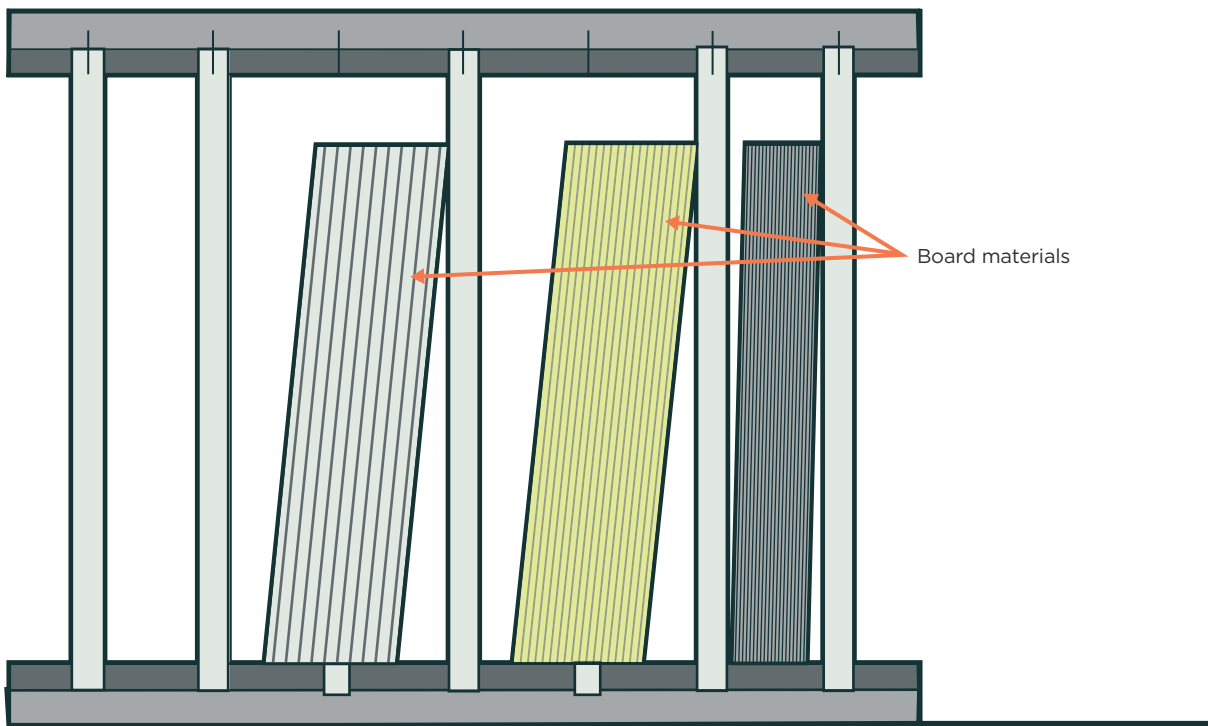


FIGURE 3: Pigeon hole system for storing board materials

It is important that these kinds of systems are:

- designed and installed by a competent person
- fixed securely to the floor
- marked with the manufacturer's maximum load information, and not loaded above this
- regularly inspected for damage.

Safe loading and unloading of board materials

Because of their size and weight, large board materials can be difficult to move and carry. They may require a wide arm span to get a good grip and can become unstable or unbalanced, particularly if it is windy.

When lying flat, they may be difficult to move because the large surface area increases friction.

To minimise the risk of injury when loading or unloading board material, appropriate handling aids (for example, panel trolleys or lifting hooks) should be used.

For more information, see our guidance: [Manual handling](#)

Appendix 1: Health and Safety at Work Act duties

The [Health and Safety at Work Act 2015](#) (HSWA) is New Zealand’s key work health and safety law.

All work and workplaces are covered by HSWA unless they have been specifically excluded. For example, HSWA does not apply to the armed forces in certain situations.

HSWA sets out the work health and safety duties that duty holders must comply with.

There are four types of duty holder under HSWA:

- a person conducting a business or undertaking (PCBU)
- an officer
- a worker
- an ‘other person’ at the workplace.

Most duties under HSWA relate to **how** work is carried out. However some duties are linked to **where** work is carried out: the workplace.

A **workplace** is a place where work is being carried out or usually carried out for a business or undertaking. It includes any place where a worker goes or is likely to be while at work [section 20 of HSWA](#)

DUTY HOLDER	WHO THEY ARE?	EXAMPLES	WHAT ARE THEIR DUTIES?	FOR MORE INFORMATION
Person Conducting a Business or Undertaking (PCBU)	<p>A person conducting a business or undertaking (PCBU) may be an individual person or an organisation</p> <p>The following are not PCBUs:</p> <ul style="list-style-type: none"> - officers - workers - other persons at a workplace - volunteer associations that do not have employees - home occupiers (such as home owners or tenants) who pay someone to do work around the home section 17 of HSWA 	<ul style="list-style-type: none"> - a business - a self-employed person - partners in a partnership - a government agency - a local council - a school or university. 	<p>A PCBU has many duties. Key duties are summarised below.</p> <p>Primary duty of care section 36 of HSWA</p> <p>A PCBU must ensure, so far as is reasonably practicable, the health and safety of workers, and that other persons are not put at risk by its work.</p> <p>Managing risks section 30 of HSWA</p> <p>Risks to health and safety arise from people being exposed to hazards (anything that can cause harm). A PCBU must manage work health and safety risks.</p> <ul style="list-style-type: none"> - A PCBU must first try to eliminate a risk so far as is reasonably practicable. This can be done by removing the source of harm <ul style="list-style-type: none"> - for example, removing faulty equipment or a trip hazard. - If it is not reasonably practicable to eliminate the risk, it must be minimised so far as is reasonably practicable. <p>Overlapping duties: working with other PCBUs section 34 of HSWA</p> <p>A PCBU with overlapping duties must, so far as is reasonably practicable, consult, cooperate and coordinate activities with other PCBUs they share duties with.</p>	<p>Introduction to the Health and Safety at Work Act 2015</p> <p>Appendix 2 of this guidance for an explanation of ‘so far as is reasonably practicable’</p> <p>Identifying, assessing and managing work risks</p> <p>Section 2 of this guidance or Appendix 5 of this guidance</p> <p>Appendix 3 of this guidance</p>

DUTY HOLDER	WHO THEY ARE?	EXAMPLES	WHAT ARE THEIR DUTIES?	FOR MORE INFORMATION
			<p>Involving workers: worker engagement, participation and representation Part 3 of HSWA</p> <p>A PCBU must, so far as is reasonably practicable, engage with their workers (or their workers' representatives) about health and safety matters that will directly affect the workers.</p> <p>A PCBU must have worker participation practices that give their workers reasonable opportunities to participate in improving health and safety on an ongoing basis.</p>	Appendix 4 of this guidance
Upstream PCBU	A PCBU in the supply chain	<ul style="list-style-type: none"> - a designer - a manufacturer - a supplier - an importer - an installer, constructor, or commissioner. 	<p>Upstream PCBU sections 39–43 of HSWA</p> <p>An upstream PCBU must ensure, so far as is reasonably practicable, that the work they do or the things they provide to other workplaces do not create health and safety risks.</p>	Introduction to the Health and Safety at Work Act 2015
Officer	A specified person or a person who exercises significant influence over the management of the business or undertaking section 18 of HSWA	<ul style="list-style-type: none"> - a company director - a partner or general partner - a chief executive. 	<p>Officer section 44 of HSWA</p> <p>An officer must exercise due diligence that includes taking reasonable steps to ensure that the PCBU meets their health and safety duties.</p>	Introduction to the Health and Safety at Work Act 2015
Worker	An individual who carries out work for a PCBU section 19 of HSWA	<ul style="list-style-type: none"> - an employee - a contractor or sub-contractor - an employee of a contractor or sub-contractor - an employee of a labour hire company - an outworker (including homeworker) - an apprentice or trainee - a person gaining work experience or on work trials - a volunteer worker. 	<p>Worker section 45 of HSWA</p> <p>A worker must take reasonable care of their own health and safety, and take reasonable care that they do not harm others at work.</p> <p>A worker must cooperate with reasonable policies and procedures the PCBU has in place that the worker has been told about.</p> <p>A worker must comply, as far as they are reasonably able, with any reasonable instruction given by the PCBU so the PCBU can meet their legal duties.</p>	Introduction to the Health and Safety at Work Act 2015
Other person at the workplace	An individual present at a workplace (not a worker)	<ul style="list-style-type: none"> - a workplace visitor - a casual volunteer (not a volunteer worker) - a customer. 	<p>Other person at the workplace section 46 of HSWA</p> <p>An 'other person' has a duty to take reasonable care of their own health and safety, and not adversely affect the health and safety of anyone else.</p> <p>They must comply with reasonable instructions relating to health and safety at the workplace.</p>	Introduction to the Health and Safety at Work Act 2015

Appendix 2: So far as is reasonably practicable

section 22 of HSWA

Certain PCBU duties (the [section 36–43](#) duties including the primary duty of care) must be carried out ‘so far as is reasonably practicable’.

What to consider when deciding what is ‘reasonably practicable’

Just because something is possible to do, does not mean it is reasonably practicable in the circumstances.

Consider:

- What possible actions can be taken to ensure health and safety?
- Of these possible actions, at a particular time, what is reasonable to do?

Think about the following questions.

WHAT IS KNOWN ABOUT THE RISK?

- How likely is the risk to occur?
- How severe is the illness or injury that might occur if something goes wrong?
- What is known, or should reasonably be known, about the risk?

WHAT IS KNOWN ABOUT POSSIBLE CONTROL MEASURES?

- What is known, or should reasonably be known, about the ways (control measures) to eliminate or minimise the risk?
- What control measures are available?
- How appropriate (suitable) are the control measures to manage the risk?
- What are the costs of these control measures?
- Are the costs grossly disproportionate to the risk? Cost must only be used as a reason to not do something when that cost is grossly out of proportion to the risk.

While PCBUs should check if there are widely used control measures for that risk (such as industry standards), they should always keep their specific circumstances in mind. A common industry practice might not be the most effective or appropriate control measure to use.

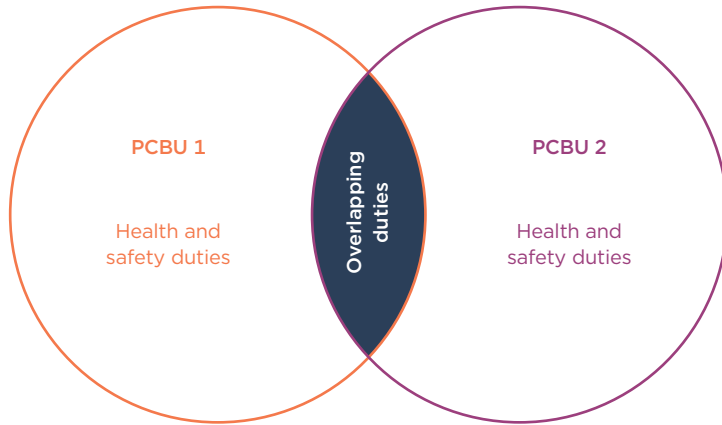
If PCBUs are not sure what control measures are appropriate, WorkSafe recommends getting advice from a suitably qualified and experienced health and safety professional.

For more information, see our guidance: [Reasonably practicable](#)

Appendix 3: Working with other PCBUs – overlapping duties

section 34 of HSWA

More than one PCBU can have a duty in relation to the same matter. These PCBUs have overlapping duties – this means that the duties are shared between them.



Duties regularly overlap:

- in a shared workplace (for example, a building site or a port) where more than one business has control and influence over the work on site.
- in a contracting chain, where contractors and subcontractors provide services to a head contractor or client and do not necessarily share the same workplace.

A PCBU must, so far as is reasonably practicable, consult, cooperate and coordinate activities with all other PCBUs they share duties with so that all PCBUs can meet their joint responsibilities.

A PCBU cannot transfer or contract out of their duties, or pass liability to another person.

However a PCBU can make an agreement with another PCBU to fulfil specific duties. Even if this occurs, all PCBUs are still responsible for meeting their legal duties.

Example

A local hotel contracts out housekeeping services to an agency. The hotel and agency both have a duty to ensure the health and safety of the housekeeping workers, so far as is reasonably practicable. This includes the duty to provide first aid facilities.

The agency reaches an agreement with the hotel – if their workers need first aid while working at the hotel they can use the hotel's first aid facilities.

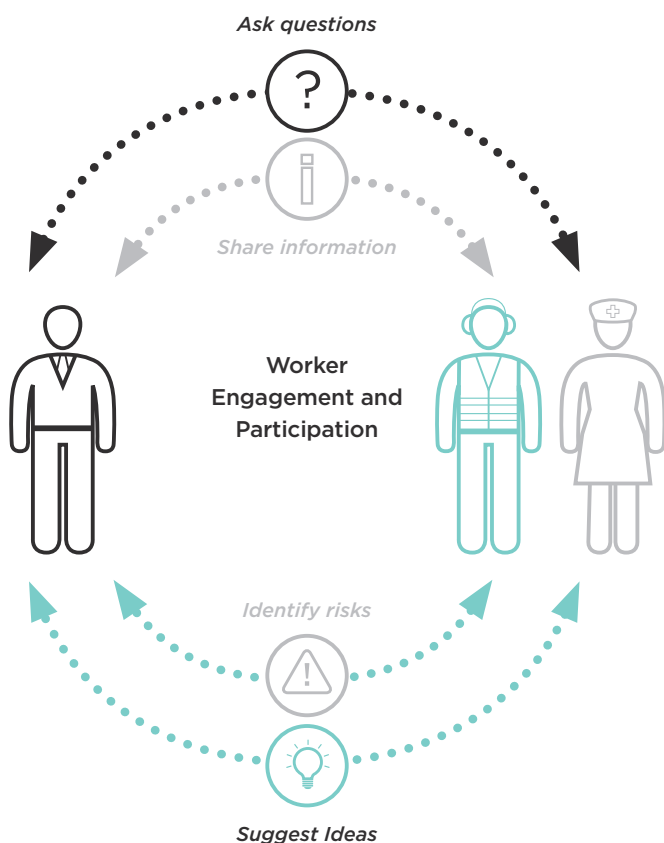
For more information, see our guidance: [Overlapping duties](#)

Appendix 4: Worker engagement, participation and representation Part 3 of HSWA

Engage with workers and enable their participation

A PCBU has two main duties related to worker engagement and participation:

- to engage with workers on health and safety matters that affect or are likely to affect workers, so far as is reasonably practicable, and
- to have practices that give workers reasonable opportunities to participate effectively in the ongoing improvement of work health and safety.



A PCBU can engage with workers by:

- sharing information about health and safety matters so that workers are well-informed, know what is going on and can contribute to decision-making
- giving workers reasonable opportunities to have a say about health and safety matters
- listening to and considering what workers have to say at each step of the risk management process
- considering workers' views when health and safety decisions are being made
- updating workers about what decisions have been made.

A PCBU must engage with workers during specified times, including when identifying hazards and assessing risks.

A PCBU must have clear, effective, and ongoing ways for workers to suggest improvements or raise concerns.

Worker representation

Workers can be represented by a Health and Safety Representative (HSR), a union representing workers, or a person that workers authorise to represent them (for example, a community or church leader, or another trusted member of the community).

HSRs and Health and Safety Committees (HSCs) are two well-established methods of participation and representation. If workers are represented by an HSR, worker engagement must also involve that representative.

For more information

WORKSAFE GUIDANCE

Good practice guidelines

[Worker engagement, participation and representation](#)

Interpretive guidelines

[Worker representation through Health and Safety Representatives and Health and Safety Committees](#)

Pamphlets

[Worker representation](#)

[Health and Safety Committees](#)

[Health and Safety Representatives](#)

Appendix 5: Managing risk section 30 of HSWA

Risks to health and safety arise from people being exposed to a hazard (a source or cause of harm).

A PCBU must first try to **eliminate** a risk if this is reasonably practicable. If it is not reasonably practicable to eliminate the risk, it must be **minimised** so far as is reasonably practicable.

A PCBU must engage with workers and their representatives:

- when identifying and assessing risks, and
- when making decisions about how to eliminate or minimise the risks using appropriate control measures.

Follow the steps below to identify, assess and manage work health and safety risks.

STEP 1: IDENTIFY HAZARDS THAT COULD GIVE RISE TO WORK RISKS

With your workers, identify what could harm the health or endanger the safety of one or more workers or others (such as visitors, or bystanders).

STEP 2: ASSESS WORK RISKS

With your workers, identify and assess the risks arising from each work hazard.

Ask:

- Who might be exposed to the hazard?
- What could happen?
 - How severe could the resulting injuries be?
 - How could people's health be affected?
 - How likely are these consequences?

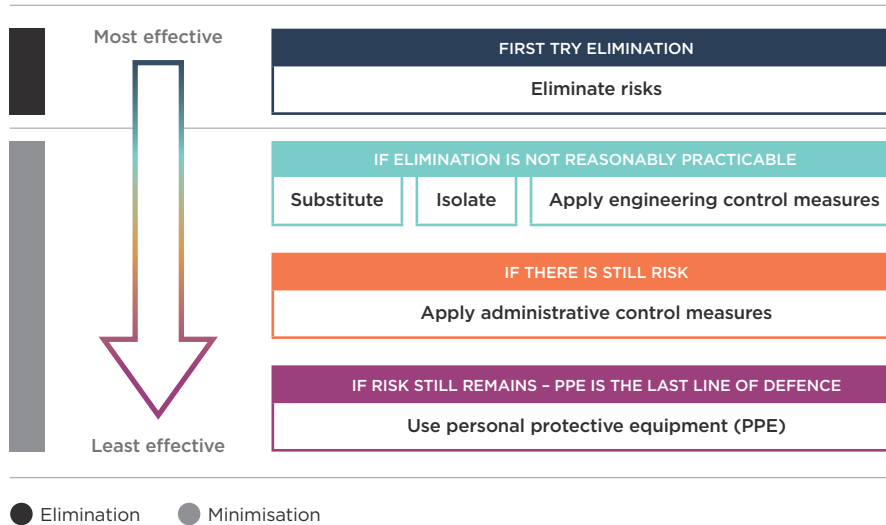
Decide which risks to deal with immediately. For example, risks with potentially significant consequences such as serious injury or death, chronic ill-health, or those with a high likelihood of occurring.

STEP 3: DECIDE HOW TO MANAGE EACH RISK

With your workers, decide how to manage work risks.

Multiple control measures may be needed to deal with a given risk. Give preference to control measures that protect many workers at the same time (for example, safety barriers, safety nets).

A PCBU can use the following hierarchy of control measures to work out the most effective control measures to use.



First try to eliminate

First try to eliminate the risk, if this is reasonably practicable. This can be done by removing the source or cause of harm (such as faulty equipment, a noisy machine or a trip hazard).

Then try to minimise

If it is not reasonably practicable to eliminate the risk, the risk must be minimised so far as is reasonably practicable.

Minimise the risk using one or more of the following actions:

- substitute/swap with something that has a lower risk
- isolate the hazard by separating people from the source of harm
- apply engineering control measures (where physical components of the plant, structure or work area are changed to reduce or eliminate exposure to hazards).

If the risk still remains after taking one or more of the actions above, try to minimise the risk with administrative control measures (safe methods of work, procedures or processes).

If there is still risk, use personal protective equipment (PPE) to minimise the risk. PPE is the least effective control measure, and should only be used when other control measures alone cannot adequately manage the risk.

STEP 4: PUT CONTROL MEASURES IN PLACE

As soon as possible after a decision is made about the control measures, a PCBU should:

- put the control measures in place
- instruct and train workers (including new workers) about the control measures, including why it is important to use them and how to apply them.

STEP 5: REVIEW AND IMPROVE CONTROL MEASURES

Control measures should remain effective, be fit-for-purpose, be suitable for the nature and duration of the work, and be used correctly.

With your workers, regularly monitor control measures to confirm that the measures are effective.

You should review control measures:

- when a new risk is identified
- when there is a change at the workplace or to the work
- when workers or their health and safety representative ask for a review
- when there is evidence that control measures may not be working effectively to manage the risk (for example, when you receive monitoring results or a report following an incident investigation).

Use guidance from WorkSafe or others (for example, industry associations) to help to identify, assess, and manage risks, and review control measures.

If you need help, WorkSafe recommends getting advice from a suitably qualified and experienced health and safety professional.

For more information, see our [guidance: Identifying, assessing and managing work risks](#)

Disclaimer

This publication provides general guidance. It is not possible for WorkSafe to address every situation that could occur in every workplace. This means that you will need to think about this guidance and how to apply it to your particular circumstances.

WorkSafe regularly reviews and revises guidance to ensure that it is up-to-date. If you are reading a printed copy of this guidance, please check worksafe.govt.nz to confirm that your copy is the current version.

ISBN 978-1-98-856788-4 (online)

Published: August 2021

PO Box 165, Wellington 6140, New Zealand

worksafe.govt.nz



Except for the logos of WorkSafe, this copyright work is licensed under a Creative Commons Attribution-Non-commercial 3.0 NZ licence.

To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc/3.0/nz>

In essence, you are free to copy, communicate and adapt the work for non-commercial purposes, as long as you attribute the work to WorkSafe and abide by the other licence terms.

